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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/118,359 07/17/98 KELLER

J MI22-587

EXAMINER

021567 MMC2/0925  
WELLS ST JOHN ROBERTS GREGORY AND MATKIN  
SUITE 1300  
601 W FIRST AVENUE  
SPOKANE WA 99201-3828

ESTRADA, M

ART UNIT

PAPER NUMBER

2823

DATE MAILED:

09/25/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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**Office Action Summary**

Application No.

09/118,359

Applicant(s)

KELLER ET AL.

Examiner

Michelle Estrada

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14,25-31 and 41-57 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14,25-31 and 41-57 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 20.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior office action.

The Double Patenting rejection is withdrawn.

### ***Claim Rejections - 35 USC § 102***

Claims 1, 2, 7, 9, 41, 42 and 51-57 are rejected under 35 U.S.C. 102(e) as being anticipated by Araki et al.

The rejection is maintained as stated in the office action mailed 5/8/01 and as stated below.

With respect to claims 52-56, there is overlap between the recited floating gate thickness, the inner first portion thickness and the dopant concentration and those disclosed in the present invention.

Applicant argues that in claim 51, "providing conductivity enhancing impurity in the inner first portion to a greater concentration than conductivity enhancing impurity in the outer second portion wherein forming a floating gate over a substrate comprises: forming the inner first portion in contact with a gate dielectric" requires the portion of the inner first portion contacting the gate to be doped as recited. However, as stated in the office action mailed 5/8/01, the doped portion of the polysilicon layer (104) and the underlying portion could be characterized as an "inner first portion" as recited in claim 51.

Applicant argues that the reference fails to provide enabling disclosure for any of claims 1, 2, 7, 9, 41, 42 and 51. However, the claims encompass the structure of Araki et al. for the reasons discussed above. Applicant's argument that the first layer is the layer immediately atop the gate dielectric is not well taken for the reasons described above.

Applicant argues that the recited dopant concentration is not obtained because the dopant will be diffused into a larger volume. However, as stated above and in the office action mailed 5/8/01, the doped portion could be characterized as the inner first portion for the purpose of rejection of claims 1, 2, 7 and 9 and claims 41, 42 and 51 do not require that the inner portion be uniformly doped which allows the doped layer and the underlying layer to be characterized as the "inner first portion".

Applicant alleges that the examiner does not respond to all arguments provided by applicant in previous amendments. However, applicant fails to identify a particular argument for which no response was proffered.

***Claim Rejections - 35 USC § 103***

Claims 3-6, 8, 10-14, 25-31 and 43<sup>44-50</sup> are rejected under 35 U.S.C. 103(a) as being unpatentable over Araki et al. as applied to claims 1, 2, 7, 9, 41, 42 and 51-57 above, and further in view of the stated comments.

The rejection is maintained as stated in the office action mailed 5/8/01.


**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Estrada whose telephone number is 703-308-0729. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on 703-308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 (7724, 3431 and 3432) for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

  
George Fourson  
Primary Examiner  
Art Unit 2823

  
MEstrada  
September 20, 2001